



IEEE CINCINNATI SECTION NEWSLETTER - FEB. 2009

FEBRUARY MEETING **EMERGENCY ELECTRIC GENERATORS FOR HOME -** **THE TECHNICAL, THE DIFFERENCES,** **AND HOW TO CHOOSE**

DATE: Thursday, February 26, 2009
PLACE : Raffel's – 10160 Reading Road (see below for directions)
TIME : 5:30 p.m. to 6:00 p.m. - Social Time
6:00 p.m. to 7:00 p.m. - Dinner
7:00 p.m. to 8:30 p.m. - Presentation

COST FOR DINNER: \$10.00 per person – REGARDLESS OF MEMBERSHIP OR MEMBERSHIP GRADE!

NOTE: DINNERS ARE ALWAYS OPTIONAL - YOU MAY ATTEND THE PROGRAM ONLY.

MENU SELECTIONS: Spinach Stuffed Tomato, Pan Fried Tilapia with Lemon Caper Sauce, Beef Stroganoff, Steamed Fresh Broccoli, Buttered Noodles, Tossed Salad, Dinner Rolls and Butter, Apple & Peach Cobblers, Coffee, Tea, Iced Tea, Soft Drinks. There is also a bar available for the purchase of alcoholic drinks.

LOCATION: Raffel's is located at 10160 Reading Road, south of Glendale-Milford Road on the east side of Reading. Take I-75 to the Glendale-Milford Rd. Exit, go east on Glendale-Milford Road approximately $\frac{3}{4}$ of a mile to Reading Rd. and turn right on Reading.

RESERVATIONS: Please email Fred Nadeau for reservations at <mailto:fnadeau1@earthlink.net> (preferred) or call the Section Voice Mail at 513-629-9380 by **Noon, Tuesday, February 24, 2009** if you plan to attend. Please leave your Name, IEEE Member Number, and a daytime telephone number.

PE CREDITS: Depending on the subject matter, attendance at IEEE Cincinnati Section Meetings now qualifies the attendee for Professional Development Hours towards renewal of Professional Engineers Licenses. Required documentation will be available following the meeting! The Section Meetings also provide a great opportunity to network with fellow engineers in the area.

ABOUT THE MEETING: Our speaker this month, Vic Spang of Buckeye Power Sales Company, will share his technical knowledge and the information we need for choosing home generation for ourselves. Given our recent outages with ice and wind, the demand for home generation has been increasing.

ABOUT THE SPEAKER: Mr. Spang has over 31 years in the generator business - from technical design to sales - working with Engineers and Architects on single and multiple paralleling systems. He also serves on a Kohler Distributor Industrial sub-committee. Buckeye Power Sales Company has been supplying quality generator systems for factories, hospitals, nursing homes, public buildings, water and sewage projects, and home standby for 60 years.

MEMBERSHIP NEWS

NEW MEMBERS

The following individuals are IEEE members who are new to our Section:

Steven M. Bak	Thomas Gerard McLaughlin
Nancy Marie Connelly	Alex Meier
Benjamin Corrado	Obioma Nwigwe
Jim Ray Gross	Diana Treece
Alero Boritsein Jakpa	Lee Watson
Alexander Wayne Juncker	Brandon Williams

We wish to welcome these new members to the Cincinnati Section!!!

Scanning the Past: A History of Electrical Engineering from the Past

Submitted by Bob Morrison, Editor

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Greenleaf W. Pickard and the Eclipse Network

Seventy years ago this month, the PROCEEDINGS OF THE INSTITUTE OF RADIO ENGINEERS (IRE) included a paper by Greenleaf W. Pickard on the effect of a recent solar eclipse on radio reception. At the time he was a consulting engineer with the Wireless Specialty Apparatus Company of Boston, MA, and a past president of the IRE. He was the author or coauthor of 15 *Proceedings* papers published between 1920 and 1934.

Pickard was born in 1877 in Portland, ME. The well known poet, John Greenleaf Whittier, was his great uncle. Pickard attended the Lawrence Scientific School at Harvard University and also took classes at the Massachusetts Institute of Technology. In 1899 he received a grant from the Smithsonian Institution to support his wireless research at the Blue Hill Observatory in Milton, MA. He joined the American Wireless Telegraph and Telephone Company in 1901 and installed wireless apparatus to report the Americas Cup yacht competition that year.

Pickard worked for the American Telephone and Telegraph Company from 1902 to 1906. During this period, he experimented with wireless telephony and also observed some of Reginald Fessenden's tests of a radio alternator. Pickard tested a large number of minerals in an effort to discover the most effective contact detector of radio waves. He found that a sample of fused silicon obtained from the Westinghouse Electric Company produced excellent results and he received a patent on a silicon crystal detector in 1906. Reportedly, he tested more than 30 000 combinations of materials for detectors.

In 1907, Pickard and two associates organized the Wireless Specialty Apparatus Company to market his patented detectors, one of which was called Perikon, an acronym for "perfect Pickard contact." Pickard was a member of both the Society of Wireless Telegraph Engineers and the Wireless Institute when they merged to form the IRE in 1912. He served as the second president of the IRE in 1913. During World War I, he

investigated ways to mitigate static interference at a Navy radio installation at Otter Cliffs, ME. He published an IRE paper on the use of directional antennas to reduce static in October 1920. He speculated that much of the static was caused by solar phenomena.

In his October 1925 paper, Pickard reported that he had organized an "eclipse network" involving both commercial and experimental stations in an effort to measure the effects of the solar eclipse of January 24, 1925, on radio reception. Several stations had transmitted continuous wave signals at frequencies ranging from 57 kHz to 4 MHz. Observers including Alfred N. Goldsmith had made graphical recordings at various receiving sites. Pickard was awarded the IRE Medal of Honor in 1926 in recognition of his many contributions to radio science.

Pickard continued to investigate propagation of radio waves and served as a consultant to the Radio Corporation of America and other clients during the 1930's. He published an IRE paper in July 1931 on the effect of meteor showers on propagation. He also explored the effect of sunspots and atmospheric pressure and temperature on reception over a wide range of frequencies. He became a Fellow of the Radio Club of America and was awarded its Armstrong Medal in 1941. He died in 1956 at age 78.

*James E. Brittain
School of History, Technology and Society
Georgia Institute of Technology*

IEEE NEWS

Washington, DC Public Radio, Metro Transit

Announcements Promote EWeek Discover Engineering Family Day

IEEE-USA is sponsoring announcements on Washington, DC's all-classical public radio station and in the capital city's Metro transit system that promote Discover Engineering Family Day, to be held at the National Building Museum in Washington on Saturday, 21 February.

Discover Engineering Family Day, part of Engineers Week 2009, provides an interactive day-long program to introduce youngsters and their families to the excitement of engineering. The program engages more than 6,000 participants annually in "hands-on" and "minds-on" experiences to create an interest in engineering principles that are encountered in everyday life. The 2009 event encourages attendees to "work with engineers to invent something new."

IEEE-USA and the National Engineers Week Foundation are major sponsors of EWeek Family Day. More information is available at <http://www.eweek.org/EngineersWeek/FamilyDay.aspx>

IEEE-USA has contracted with Metro transit to place posters promoting Family Day in 100 rail cars on all five Metro rail lines, plus installation of two lighted dioramas at the Judiciary Square/Building Museum Metro station. The Metro placements have been timed to coincide with record breaking use of the transportation system by hundreds of thousands of riders expected during the Presidential inauguration in Washington on 20 January.

Additionally, IEEE-USA is running promotional announcements highlighting Family Day in January and February on WETA-FM -- broadcast during NPR and PBS news programs at <http://www.weta.org/fm>, and posted online in a community calendar at <http://www.weta.org/local/calendar>

Through its support of Family Day and other public awareness activities, IEEE-USA seeks to counter a public perception, cited in the last Harris interactive opinion poll on engineers and scientists, that engineers show less interest in their local communities than scientists. For more information on IEEE-USA's public awareness program, go to <http://www.ieeeusa.org/communications/default.asp>

The IEEE Cincinnati Section Executive Committee

Member Names and Phone Numbers

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